

**Claims**

1. Rotating-frame rail (1) for a filtration device with filtration cells  
5 disposed in a carousel, comprising

- a first flange (2), cut from a sheet of steel so as to form a first circular or polygonal ring segment and having an external surface (5), intended to cooperate with at least one filtration cell, and an internal surface (4),

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- a second flange (3), cut from a sheet of steel so as to form a second circular or polygonal ring segment and having an external surface (7) and an internal surface (8),

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- a steel web (10) welded transversely to the internal surfaces (4, 6) of the first and second flanges (2, 3) so as to form a rail having a transverse section roughly in an H shape, and

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- a wear plate (8), cut from a sheet of steel so as to form a third circular or polygonal ring segment and fixed to the said external surface (7) of the second flange (3) in order to form a contact surface for support rollers (9),

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characterised in that the web (10) is formed from at least two steel cross-ties (11, 12), curved or bent in a parallel fashion and welded to the said internal surfaces (4, 6) of the flanges (2, 3), and in that the second flange (3) and the wear plate (8) have corresponding piercings (13, 14), through which there are disposed fixing elements (15) that fix the wear plate (8) to the second flange (3) in a detachable manner.

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2. Support rail according to claim 1, characterised in that the first flange

(2) and/or the second flange (3) have an external surface (5, 7) planed by machining.

3. Support rail according to one or other of claims 1 and 2,  
5 characterised in that the web (10) is formed by a tube (16) having a rectangular cross section and long sides (17, 18) forming the said parallel cross-ties.

4. Support rail according to any one of claims 1 to 3, characterised in  
10 that the said fixing elements are bolts (15) cooperating with nuts (16).

5. Rotating frame for a filtration device with filtration cells disposed in a carousel comprising several rails (1) according to any one of claims 1 to 4, arranged in succession in a circular or polygonal manner.

15 6. Method of manufacturing a rotating-frame support rail for a filtration device with filtration cells disposed in a carousel according to any one of claims 1 to 4, comprising

20 - cropping from a steel sheet a first flange and second flange of the rail and a wear plate so as to give them the form of a ring or polygon segment,

- curving or bending at least two steel cross-ties in a parallel manner,

25 - welding the said at least two cross-ties parallel to the internal surface of the first and second flanges,

- eliminating any residual stresses present in the steel,

30 - producing corresponding piercings through the second flange and the

wear plate, and

- fixing the wear plate to the external surface of the second flange by detachable fixing elements passed through the aforementioned piercings.

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7. Method according to claim 6, characterised in that it also comprises a planing by machining of the external surfaces of the said first and second flanges.

10 8. Method according to one or other of claims 6 and 7, characterised in that the rail is made from stainless steel and in that the elimination of the residual stresses consists of a peening of welded areas.

15 9. Method according to one or other of claims 6 and 7, characterised in that the rail is made from carbon steel and in that the elimination of the residual stresses consists of a annealing thereof.

10. Method according to claim 9, characterised in that the said annealing takes place at a temperature above 600°C, preferably around 620°C.

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